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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/034,100

12/28/2001

Srinivas S. Pitla

10541-628

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7590

05/14/2004

VISTEON

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EXAMINER

LOPEZ, FRANK D

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 05/14/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/034,100

Applicant(s)

PITLA ET AL.

Examiner

F. Daniel Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on telephone interview of May 10, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-16, 18, 19 and 29-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16, 18, 19 and 29-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 31, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>16</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                              |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.  |

***Response to Interview***

In view of the interview on May 10 and 11, 2004, PROSECUTION IS HEREBY REOPENED and the previous election by original presentation is withdrawn.

***Response to Amendment***

Applicant's arguments filed December 31, 2003, have been fully considered but they are not deemed to be persuasive.

Applicant arguments with respect to claims 1-9 are moot due to the new grounds of rejection. The new grounds of rejection are necessitated by the added limitation that "the first radius of curvature being substantially continuous between the first and second ends".

Applicant argues that a parameter is not merely optimization of a workable range, unless that parameter is recognized as a result effective variable. Rasmussen does not recognize the second radius as a result effective variable and therefore this limitation is not rendered obvious as a mere optimization range. Applicant is mistaken. There is a variety of ways for the first and second radii to be optimized to make the second radius greater than the first radius. For example, the first radius may be optimized to generate a specific pressure, wherein this first radius is smaller than the second radius, thereby meeting the limitation.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

Claims 29-33 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Hiramatsu et al (see the first embodiment, figs 1-5, especially fig 2 showing the flat (30) between arcuate sections (31)).

***Claim Rejections - 35 USC § 103***

Claims 1-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Rasmussen in view of Kanai et al. Rasmussen discloses a piston anti-rotation mechanism for a swash plate compressor comprising a housing having an inner wall and a front end connected to an inner wall defining a crank case; a plurality of piston receiving bores (1) formed in the front end adjacent one of a plurality of anti-rotation grooves (22) formed in the inner wall; an anti-rotation piston having a skirt (13) extending from a bottom end of a body (3, 4), wherein the body has a first radius of curvature (for piston 3) and slidably movable in the bore; wherein the skirt has an arcuate outer surface with a second radius of curvature fully slidably engaged in the anti-rotation groove; wherein the axis (19) of rotation of the skirt is within the piston, between the inner wall and the axis (1a) of rotation of the piston, and offset from the axis of rotation of the piston, to prevent rotation of the piston; wherein a swash plate (6) is angularly disposed about a first portion of a drive shaft (7), located in the crank case; wherein the skirt forms a plate receiving slot through which the swash plate angularly rotates to slidably move the piston along the bore; with the slot has first and second shoe pockets respectively formed in first and second walls; with a shoe (11, 12) in each pocket; but does not disclose that the first radius of curvature is substantially continuous between the first and second ends, that the second radius greater than the first radius; or that the front end has a drive shaft side, through which the drive shaft extends.

Kanai et al teaches, for a piston anti-rotation mechanism for a swash plate compressor comprising a anti-rotation piston having a skirt (73) extending from a second end of a body (71), wherein the body has a first radius of curvature and a first end and slidably movable in a bore (6); that the first radius of curvature is substantially continuous between the first and second ends.

Since the pistons of Rasmussen and Kanai et al are functionally equivalent in the piston art; it would have been obvious at the time the invention was made to one having ordinary skill in the art to the first radius of curvature of the piston of Rasmussen substantially continuous between the first and second ends, as taught by Kanai et al, as a matter of engineering expediency.

Since it is not inventive to discover optimum or workable ranges by routine experimentation, unless the range is a critical range (i.e. the critical range produces an unexpected result, which is different in kind and not just in degree), and since making the second radius larger than the first radius is a workable range of values for the radius; it would have been obvious at the time the invention was made to one having ordinary skill in the art to make the second radius of Rasmussen larger than the first radius, as a matter of engineering expediency. Note that the applicant has the burden to prove that this value for the radius is a critical value.

Official notice is taken that a front end of a housing has a drive shaft side, through which a drive shaft extends, for the purpose of closing off the housing. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the front end of the housing of Rasmussen with a drive shaft side, through which a drive shaft extends, for the purpose of closing off the housing.

Claims 11-16, 18 and 19 are rejected under 35 U.S.C. § 103 as being unpatentable over Rasmussen. Rasmussen discloses a piston anti-rotation mechanism for a swash plate compressor comprising a housing having an inner wall and a front end connected to an inner wall defining a crank case; a plurality of piston receiving bores (1) formed in the front end adjacent one of a plurality of anti-rotation grooves (22) formed in the inner wall; an anti-rotation piston having a skirt (13) extending from a bottom end of a body (3, 4), wherein the body has a first radius of curvature (for piston 3) and slidably movable in the bore; wherein the skirt has an arcuate outer surface (see e.g. fig 1) with a second radius of curvature fully slidably engaged in the anti-rotation groove; wherein the axis (19) of rotation of the skirt is within the piston, between the inner wall and the axis (1a) of rotation of the piston, and offset from the axis of rotation of the piston, to prevent rotation of the piston; wherein a swash plate (6) is angularly disposed about a first portion of a drive shaft (7), located in the crank case; wherein the skirt forms a plate receiving slot through which the swash plate angularly rotates to slidably move the piston along the bore; with the slot has first and second shoe pockets respectively formed in first and second walls; with a shoe (11, 12) in each pocket; but does not

disclose that the second radius is greater than the first radius; or that the front end has a drive shaft side, through which the drive shaft extends.

Since it is not inventive to discover optimum or workable ranges by routine experimentation, unless the range is a critical range (i.e. the critical range produces an unexpected result, different in kind, not just in degree), and since making the second radius larger than the first radius is a workable range of values for the radius; it would have been obvious at the time the invention was made to one having ordinary skill in the art to make the second radius of Rasmussen larger than the first radius, as a matter of engineering expediency. Applicant has the burden to prove that this radius value is a critical value.

Official notice is taken that a front end of a housing has a drive shaft side, through which a drive shaft extends, for the purpose of closing off the housing. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the front end of the housing of Rasmussen with a drive shaft side, through which a drive shaft extends, for the purpose of closing off the housing.

Claims 29-37 are rejected under 35 U.S.C. § 103 as being unpatentable over Rasmussen in view of Hiramatsu et al. Rasmussen discloses a piston anti-rotation mechanism for a swash plate compressor comprising a housing having an inner wall and a front end connected to an inner wall defining a crank case; a plurality of piston receiving bores (1) formed in the front end adjacent one of a plurality of anti-rotation grooves (22) formed in the inner wall; an anti-rotation piston having a skirt (13) extending from a bottom end of a body (3, 4), wherein the body has a first radius of curvature (for piston 3) and slidably movable in the bore; wherein the skirt has an arcuate outer surface (see e.g. fig 1) with a second radius of curvature fully slidably engaged in the anti-rotation groove; wherein the axis (19) of rotation of the skirt is within the piston, between the inner wall and the axis (1a) of rotation of the piston, and offset from the axis of rotation of the piston, to prevent rotation of the piston; wherein a swash plate (6) is angularly disposed about a first portion of a drive shaft (7), located in the crank case; wherein the skirt forms a plate receiving slot through which the swash plate angularly rotates to slidably move the piston along the bore; with the slot has first and second

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shoe pockets respectively formed in first and second walls; with a shoe (11, 12) in each pocket; but does not disclose that the arcuate outer surface is defined by first and second arcuate surfaces having a planer surface located there between; that the second radius greater than the first radius; or that the front end has a drive shaft side, through which the drive shaft extends.

Hiramatsu et al teaches, for a piston anti-rotation mechanism for a swash plate compressor comprising a anti-rotation piston (fig 2) having a skirt having an arcuate outer surface; that the arcuate outer surface is defined by first and second arcuate surfaces (31) having a planer surface (30) located there between, for the purpose of more efficient lubrication of the swash plate mechanism (e.g. clomumn 7 line 30-35, 41-43).

Since Rasmussen and Hiramatsu et al are both from the same field of endeavor, the purpose disclosed by Hiramatsu would have been recognized in the pertinent art of Rasmussen. It would have been obvious at the time the invention was made to one having ordinary skill in the art to define the arcuate outer surface of Rasmussen by first and second arcuate surfaces having a planer surface located there between, as taught by Hiramatsu et al, for the purpose of more efficient lubrication of the swash plate mechanism.

Since it is not inventive to discover optimum or workable ranges by routine experimentation, unless the range is a critical range (I.e. the critical range produces an unexpected result, which is different in kind and not just in degree), and since making the second radius larger than the first radius is a workable range of values for the radius; it would have been obvious at the time the invention was made to one having ordinary skill in the art to make the second radius of Rasmussen larger than the first radius, as a matter of engineering expediency. Note that the applicant has the burden to prove that this value for the radius is a critical value.

Official notice is taken that a front end of a housing has a drive shaft side, through which a drive shaft extends, for the purpose of closing off the housing. It would have been obvious at the time the invention was made to one having ordinary skill in the

art to make the front end of the housing of Rasmussen with a drive shaft side, through which a drive shaft extends, for the purpose of closing off the housing.


### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

  
F. Daniel Lopez  
Primary Examiner  
Art Unit 3745  
May 11, 2004